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December 2, 1998

Mr. Sirtaj Ahmed
Remedial Project Manager
United States Environmental Protection Agency
Region 5, SR-6J
Chicago, IL 60604-3590

Re: Granville Solvents Site Engineering Evaluation/Cost Analysis
Groundwater Flow and Contaminant Transport Model-Response to Comments and Revised Pages

Dear Mr. Ahmed:

The Granville Solvents Site PRP Group commissioned Metcalf & Eddy, Inc. to assemble the information concerning the Engineering Evaluation / Cost Analysis (Revision 1-July 1998) and the Groundwater Flow and Contaminant Transport Model (Revision 1- July 1998) that you requested in your September 4, 1998 letter to me. In addition, the PRP Group commissioned the preparation of a comprehensive ARAR table for inclusion in the EE/CA, which you requested in our August 28, 1998 meeting. This information has been incorporated into the enclosed comment response and revised pages for both reports. The enclosed revised pages should be substituted for the existing pages in the appropriate places in both reports.

You also requested that the PRP Group provide to you the electronic chemical data tables relating to the site. That information was transmitted to you under cover dated September 21. It is our understanding that with the submission of the enclosed information, all outstanding requests from your office have been satisfied.

Upon receipt of EPA's approval of the EE/CA and the Groundwater Flow and Contaminant Transport Model as revised by this submission, the PRP Group is prepared to go forward with the public notice requirements. Presuming that no adverse comments are received during the public notice process, the PRP Group is prepared to implement the final components of the Removal Action at the Granville Solvents Site.

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If you have any questions regarding this matter, please do not hesitate to call me.

Sincerely,

Ben L. Pfefferle, III
Granville Solvents Site PRP Group
Chairperson

cc: GSS PRP Group Technical Committee
Gerald Myers
Michael Anastasio, Esq.

REVISED PAGES FOR THE

ENGINEERING EVALUATION/COST ANALYSIS REPORT

RESPONSES TO COMMENTS ON THE EE/CA AND MOD FLOW REVISED REPORTS FOR REMEDIATION OF IMPACTED SOILS AT THE GRANVILLE SOLVENTS SITE

EPA's comments on the above are reproduced in bold type, followed by the PRPs responses in standard type.

COMMENTS PROVIDED BY MR. SIRTAJ AHMED - (Comments dated September 4, 1998)

Engineering Evaluation/Cost Analysis

1. **Section 2.2.2.4, Effectiveness of the Removal Action. In addition to the amount of groundwater that has been extracted, there should be an estimate of the mass of solvents that have been removed.**

RESPONSE:

On page 19, the mass of solvents removed has been added to the text to address this comment. Please insert revised page 19 into the document.

2. **Section 2.3.2.3, Page 64. There is a minor error in the last paragraph of this section. The depth interval given as 26-38 should be 26-28 feet.**

RESPONSE:

2. The typographical error has been corrected on page 64. Please insert revised page 64 into the document.

3. **Section 4.1.2, Soil Removal by Excavation and Disposal, Page 108, First Paragraph. Reference is made to the "Fate and Transport Modeling Report (1996)". Is this document different from the "Groundwater Flow and Contaminant Fate and Transport Model Report (December 1996) cited in Section 6, References, or is this a reference to the revised 1998 version? If these are the same document, there is no mention of a new extraction well.**

RESPONSE:

3. The reference to the *Groundwater Flow and Contaminant Fate and Transport Model* (1996 as revised in 1998) has been corrected in the text on page 109. In addition, the reference list on page 132 was also corrected to address this matter. Please insert revised pages 109 and 132 into the document.

4. **Section 4.1.2, Soil Removal by Excavation and Disposal, Page 108, Second Paragraph. Has something been omitted from the one sentence in this paragraph? Please clarify. For how long is the monitoring program to be maintained at its current level prior to being reduced?**

RESPONSE:

4. The text in the second paragraph on page 108 has been changed to read as follows: "*The groundwater monitoring program is anticipated to be maintained at its current level for 5 years and at a reduced level for a period of 10 years prior to closure.*". This page was replaced in response to Comment 3 above.

REVISED PAGES FOR THE

GROUNDWATER FLOW AND CONTAMINANT TRANSPORT MODEL REPORT

Groundwater Flow and Contaminant Fate and Transport Model

1. Section 3.3.4, Sorption of Contaminant Compounds, Page 16. In the last sentence of the first paragraph on this page, "the absorption capacity of the soil as set unlimited..." is confusing (or incorrect since non-linear Freundlich isotherms as well as linear have no maximum adsorption capacity). Since the assumption of a linear isotherm is not in question, I suggest as alternative language simply: "The adsorption capacity of the modeled soil was assumed to follow a linear adsorption isotherm."

RESPONSE:

1. The text was modified as suggested above on page 16. Please insert revised page 16 into the document.

2. Following the Granville Solvents meeting on 8/28 we discussed with OEPA why there was such a large discrepancy between the Soil to Groundwater Preliminary Remediation Goals (PRGs) and the Soil Remediation Goals based on the modeling. The answer to this question appears to relate to the definition of point or zone of compliance. In Section 6.2 it is stated that the compliance zone for the aquifer was set at EW-1 and the area around EW-1 which are [sic] within its capture zone. There is no figure presented that outlines this area. However, this is likely some distance from the highly contaminated areas. If the requirement was that groundwater beneath all the site were to achieve levels of contamination that were not above no further action levels, lower (more stringent) soil remediation levels would result. In the groundwater model presented here, breakthrough curves (e.g., Figures 12, 13 and 14) are presented showing concentration changes through modeled time for points located downgradient of the most contaminated areas near EW-1. If breakthrough curves were to be presented for areas nearer the highly contaminated source areas, I would anticipate considerably larger maximum concentrations (and exceedences of MCLs for some period of time).

   Figures and tables should be presented showing where maximum contaminant concentration levels occur along with plots of the magnitude through time. For example, groundwater transport model reports usually present plots of concentration along the centerline of a plume for several different times during the simulated time. For this site, plots at 1 year, 5 years, 10 years and 20 years (or when contamination levels everywhere are below MCLs) might be appropriate.

RESPONSE:

2. To provide a more complete picture of the expectations of the plume over time, additional figures are provided in Appendix B. Reference is made to Appendix B on page 56 and the Table of Contents has been revised. The figures included in Appendix B illustrate the predicted extent of the TCE plume at modeled years 6, 7, 8, 9, 10, 11, 12, 13, 14, and 20. Figures are also presented showing the predicted extent of the PCE plume at modeled years 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 20. The contour intervals chosen for these figures incorporate changes made in response to observations made in Comment 3 below.